



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

C10-5
Job Sheet 179667



Part No: C10-5

Job Qty: 1 ea

Part Name: Load Beam



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 6/20/18

Job Tracking No:

Due Date: 7/11/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG C10-5A/C10-5KA Rev. 3 IPP Rev. A 18.04.18 new issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	4 Ea		7/11/18	0.00	0.00	Start Up Waterjet2		see 18/07/20
100	Waterjet	4 pcs		7/11/18	0.08	0.67	Waterjet 2 OMAX		see 18/07/20
120	CNC Vertical Machining	4 pcs		7/11/18	2.00	2.00	MORI NV5000-1	Outsource	OCT 02 2018
130	QC	4 pcs		7/11/18	0.00	0.00	QC2 Machining-5		
140	QC	4 pcs		7/11/18	0.00	0.00	QC8 Machining-5		
150	Outsource	4 pcs		7/11/18	0.00	0.00	Outsource1		OCT 03 2018
160	Packaging	4 pcs		7/11/18	0.00	0.00	Packaging2		OCT 15 2018
170	QC	4 pcs		7/11/18	0.00	0.00	QC6		OCT 15 2018
180	Packaging	4 pcs		7/11/18	0.00	0.00	Packaging3-2		9-89
190	QC21-SA	4 Ea		7/11/18	0.00	0.00	QC21		OCT 16 2018

Part Op 100 - 1-Cut C10-5 blank (CANAM FOLDER C10-5A) Dwg Rev: 3 Prog Rev: 3 2-Deburr if necessary
Descriptions: 120 - 1-Machine as per folio FC FOLIO REV: DWG REV: 2-Deburr

MACHINE ENGRAVE AS PER DWG

150 - 1--Issue P/O to Metcore ; P/O 041228 RC 53- 2-Bead blast 3- Certificate of Conformity is required

125- Outsource PO: 040853 aug 7 2018 x B R h

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
MT-4140-S-1.750X12.000	AISI 4140 Steel Sheet/Plate	2.8000 ft (.7 ea)	90-Start up Operation	5050905

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	MT-4140-S-1.750X12.000	3	6	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____

QA Closed: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

Date : _____

Des _____

AGAINST DEPARTMENT/PROCESS

Water Jet ☐

Prod. Eng. Coord. ☐

Store/Packaging Supplier ☐

Engineering ☐

Quality ☐

Other ☐

MRB (QSI042) Approval

Completed By

Lead hand / Supervisor
Approval VerificationQC / QA Coordinator
Approval

Root Cause

Environment	☐	No Re-verification	☐
Design	☐	Operator	☐
Doc/Data	☐	Offset/Setup	☐
Equip/Tooling	☐	Supplier	☐
Handling/Pre	☐	Training	☐
Material	☐	Use for Testing	☐
Internal Transport	☐	Poor Information	☐
Tribal Knowledge	☐	Rushing	☐
LOA	☐	Product Improvement	☐
Substation	☐	Process Improvement	☐
Past Expiry Date	☐	Manufacturing Process	☐
Misidentified	☐	Past Due	☐

Pressure/Forced ☐

Bending ☐

Centre Not Concentric ☐

Cracks ☐

Crimp/Kink/Ripple/Wave ☐

Cuffs ☐

Crushing ☐

Heat Treat ☐

Wave/Twist in Tube ☐

Marks/Chatter ☐

Temperature/Cure ☐

Set-up ☐

BOM/Route ☐

Broken/Damage/Defect ☐

Inspection Incomplete/Unqualified ☐

Contamination ☐

Countersink ☐

Cut Too Short ☐

Instructions Incomplete/Unclear ☐

Drill Holes ☐

RY

Power Loss/Surge ☐

Folio/Program ☐

Grain ☐

Weld ☐

Wrong Stock Pulled ☐

Out of Sequence ☐

Off-set ☐

Mislabeled ☐

Fit/Function ☐

Misaligned/off center ☐

Positioned Wrong ☐

Outside Dimensions ☐

Over/Under tolerance ☐

Part Incorrect ☐

Part Lost/Missing ☐

Part Moved ☐

Drawing ☐

Finish ☐

Misread ☐

Turning Sequence ☐

OTHER : _____

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

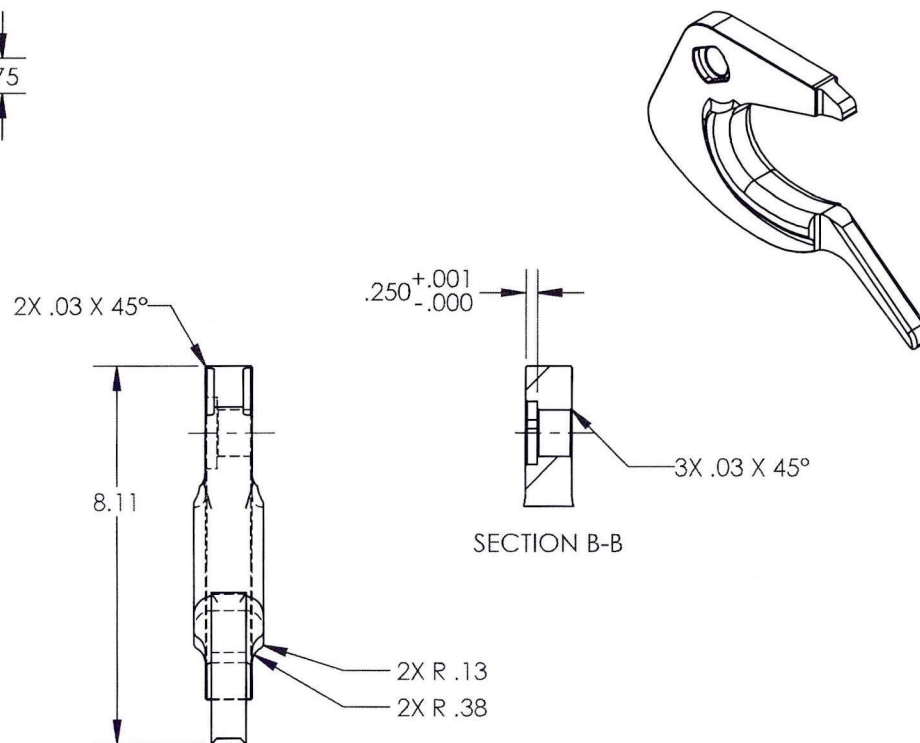
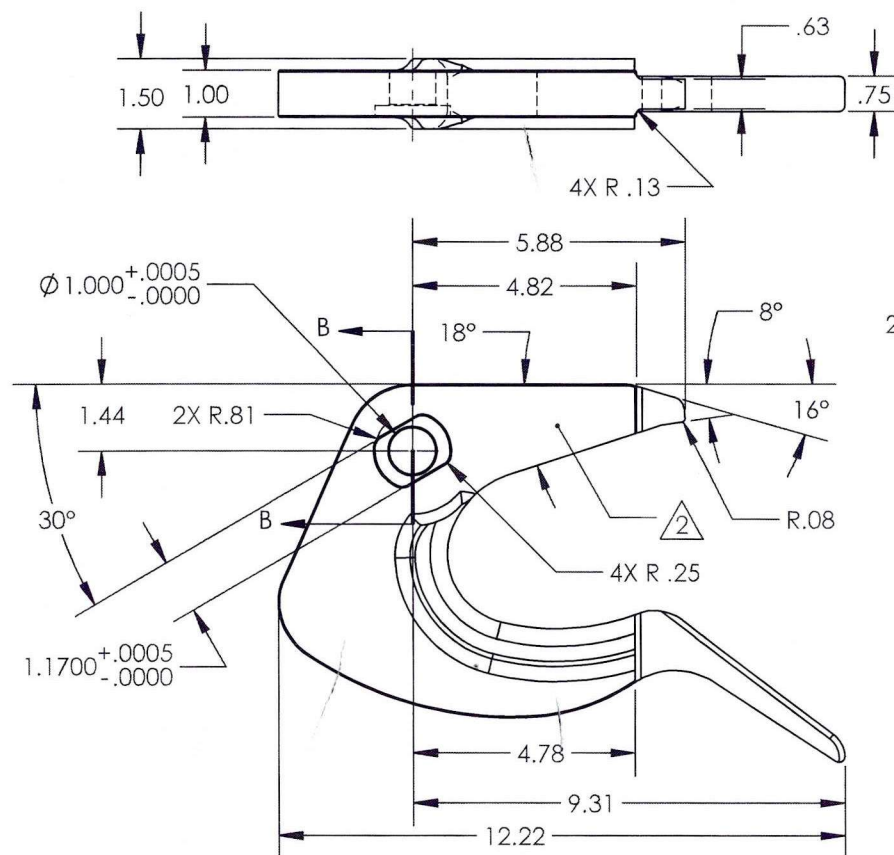
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
D		AS DRAWN BY APICAL.	5/6/2013	CFS	
2	14-0114	C10-5 ADDED MACHINE ENGRAVE NOTE.	8/8/2014	DPD	RW
3	15-0176	C10-5 ADDED DIM 4X R.13. ADDED DXF NOTE.	7/17/2015	DPD	JAG



NOTES:

1. NICKEL PLATE APPLIED AT ASSEMBLY C10-5A.
2. MACHINE ENGRAVE BATCH NUMBER.
3. USE DXF PROFILE FOR PART CONTOURS.

(C10-5)
LOAD BEAM

DART AEROSPACE	
TITLE LOAD BEAM ASSEMBLIES	
DWG NO. C10-5A/C10-5KA	REV 3
MAT'L 4140/4142	DRAWN BY: APICAL
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED: <i>D. Weil</i>
.XXX ± .005	HEAT TREAT 53-56 HRC
.XX ± .01	FINISH SEE SHEET 2 NOTE 1
.X ± .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:4	DATE 5/12/2006
SHEET 4 OF 6	

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO040853**

Supplier: ARR002-VU
Arrow Tech Machine Works
29751 E. Enid Road,
Unit C
Eugene, OR 97402 USA
Phone: 541-780-6938
Fax: 458-215-4938

PO No: PO040853

PO Date: 8/27/18

Due Date: 10/2/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lussier, Patrick

Pymt Terms: Net 30

Freight Terms:

Special Comments:

Revision 1

Ship To:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
1	176357	C10-5	Load Beam 1--Issue P/O to Metcore ; P/O _____ RC 53-56 2-Bead blast 3- Certificate of Conformity is required	Firmed	-	10/2/18	6 pcs	0 pcs	6 pcs	\$266.00/pcs	\$1,596.00
			1--Issue P/O to Metcore ; P/O _____ RC 53-56 2-Bead blast 3- Certificate of Conformity is required								
	179667			Firmed	-	10/2/18	8 pcs	0 pcs	8 pcs	\$266.00/pcs	\$2,128.00
Sub Total:							14	0	14		\$3,724.00

Grand Total: \$3,724.00



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Canada

Tel (613) 632-5200

PURCHASE ORDER PO040853

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

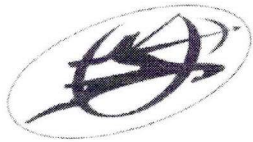
A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

A handwritten signature in black ink, appearing to be "Patrick Lussier", written over the signature line.

Plex 10/2/18 3:24 PM dart.Lussier.Patrick



**PHGE Machineworks dba
Arrowtech Machineworks**
29751 E Enid Rd. Unit C
Eugene, Oregon 97402
Phone: (541) 780-6938
Fax: (458) 215-4938

Customer Packing Slip

NO: 264

Date: 09/24/2018 ✓

PO Ref: 040853 ✓

Ship via: Freight

Bill To:

Dart Aerospace

1270 Aberdeen St. Hawkesbury, ON
CANADA K6A 1K7

Qty

6 ✓

8 ✓

Item

C10-5 Load Beam ✓

C10-5 Load Beam ✓

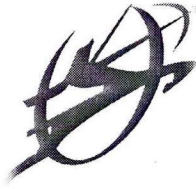
Part No.

C10-5 (Serial # S074459)

C10-5 (Serial # S094359)

Packaged by: *g.u.*
Checked by: *id*

Thank You



ARROW TECH MACHINE WORKS

Certificate of Conformance

Your Purchase Order No: 040853

Dated: 9/24/2018

Our Order / Job No: AWT-DA72

Order Qty: 14

Part Name: LOAD BEAM

Part Number: C10-5REV-3

Lot Size: 6 WITH BATCH # S074459 Ship Date: 9/24/18

We certify that these parts shipped to you are of domestic or international manufacture and conform to all requirements of the Purchase Order. These parts have been manufactured and inspected in accordance with all required specifications, instructions and drawings. Any applicable specifications are listed below:

Drawing Number: C10-5

Rev: 3

Material Size and Type: SAE 4140/4142

Material Specifications: STEEL: MATERIAL PROVIDED BY DARTAEROSPACE

Heat Treatment: N/A

Plating/Finish: N/A

Mercury Contamination: The material used to process this order has not come in contact with mercury or mercury bearing instruments.

Date: _____ 09/24/18 _____

Signed: _____

DAS
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9-89

PHGE Machine Works LLC dba Arrow Tech Machine Works
29751 E. Enid Rd. Unit C Eugene, Oregon 97402
Main: (541) 780-6938 | Fax: (458) 215-4938
www.atechmachineworks.com



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO041228**

Supplier: ATL002-VC
Atlantic Heat Treat 2001
401 Frankcom
Ajax
ON
L1S R14 Canada
Phone: 866 257 6395

PO No: PO041228

PO Date: 10/3/18

Due Date: 10/15/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Tsimiklis, ChrisoulaPhone:



Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Pymt Terms: Net 30

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	176357	C10-5	Load Beam 1--Issue P/O to Atlantic ; P/O RC 53-56 2-Bead blast 3- Certificate of Conformity is required	Firmed	-	10/15/18	6 pcs	0 pcs	6 pcs	\$36.228571/pcs	\$217.37
	179667			Firmed	-	10/15/18	8 pcs	0 pcs	8 pcs	\$36.228571/pcs	\$289.83
Sub Total:							14	0	14		\$507.20

Grand Total: \$507.20

Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retension of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

CL

DAS
38
9-89

Plex 10/15/18 12:50 PM dart.lavoie.chantal

Certification

Date: 10/09/2018

Entry Date: 10/04/2018

Page: 1 of 1

To:DART AEROSPACE LTD.
1270 ABERDEEN ST

Purchase Order No.: 041228

Packing List No.:

HAWKESBURY ON K6A 1K7

Material: 4140

We are pleased to provide you with the following Certificate of Compliance.

Quantity	Part Number / Part Name / Part Description	Pounds
14	14 PCS MATERIAL 4140 ANNEAL THEN HARDEN TO 53-56 RC SANDBLAST, C of C, JOB #176357, PART #C10-5	160

Insp. Type	Scale	Minimum	Maximum	Number	Other
------------	-------	---------	---------	--------	-------

Customer Requirements:

Harden rockwell

Results:Harden ROCKWE 53. 56. 53. TESTED AS PER SAMPLING PLAN
HEAT TREATED TO 53 RC AS PER CUSTOMER REQUEST

STATEMENT OF LIMITED LIABILITY (PLEASE READ CAREFULLY). ALL WORK IS ACCEPTED SUBJECT TO THE FOLLOWING CONDITIONS: It is recognized that even after employing all the scientific methods known to us, hazards still remain in metal treating. THEREFORE, OUR LIABILITY SHALL NOT EXCEED TWICE THE AMOUNT OF OUR CHARGES FOR THE WORK DONE ON ANY MATERIAL (FIRST TO REIMBURSE FOR THE CHARGES AND SECOND TO COMPENSATE IN THE AMOUNT OF THE CHARGES), EXCEPT BY WRITTEN AGREEMENT SIGNED BY THE METAL TREATER. THE CUSTOMER, BY CONTRACTING FOR METAL TREATMENT, AGREES TO ACCEPT THE LIMITS OF LIABILITY AS EXPRESSED IN THIS STATEMENT TO THE EXCLUSION OF ANY AND ALL PROVISIONS AS TO LIABILITY ON THE CUSTOMER'S OWN INVOICES, PURCHASE ORDERS OR OTHER DOCUMENTS. IF THE CUSTOMER DESIRES HIS OWN PROVISIONS AS TO LIABILITY TO REMAIN IN FORCE AND EFFECT, THIS MUST BE AGREED TO IN WRITING, SIGNED BY AN OFFICER OF THE TREATER. IN SUCH EVENT, A DIFFERENT CHARGE FOR OUR SERVICES REFLECTING THE HIGHER RISK TO TREATER, SHALL BE DETERMINED BY THE TREATER AND CUSTOMER. THE TREATER MAKES NO EXPRESS OR IMPLIED WARRANTIES AND SPECIFICALLY DISCLAIMS ANY IMPLIED WARRANTY OF THE FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, AS TO THE PERFORMANCE OF CAPABILITIES OF THE MATERIAL AS HEAT TREATED, OR THE HEAT TREATMENT. THE FOREMENTIONED LIMITATION OF LIABILITY STATED ABOVE IS SPECIFICALLY IN LIEU OF ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS, AND OF ANY OTHER SUCH OBLIGATION ON THE PART OF THE TREATER. No claim for shortage in weight or count will be entertained unless presented within five (5) working days after receipt of materials by customer. No claim will be allowed for shrinkage, expansion, deformity, or rupture of material in treating or straightening, except by prior written agreement, as above, nor in any case for rupture caused by or occurring during subsequent grinding. Whenever we are given material with detailed instructions as to treatment, our responsibility shall end with the carrying out of those instructions. Failure by a customer to indicate plainly and correctly the kind of material (i.e., proper alloy designation) to be treated, shall cause an extra charge to be made to cover any additional expense incurred as a result thereof, but shall not change the limitation of liability stated above. Customer agrees there will be no liability on the treater in contract for any special, indirect or consequential damages arising whatsoever, including but not limited to personal injury, property damage, loss of profits, loss of production, recall or any other losses, expenses or liabilities allegedly occasioned by the work performed on the part of the treater. It shall be the duty of the customer to inspect the merchandise immediately upon its return, and in any event claims must be reported prior to the time that any further processing, assembling or any other work undertaken. OUR LIABILITY TO OUR CUSTOMERS SHALL CEASE ONCE ANY FURTHER PROCESSING, ASSEMBLING OR ANY OTHER WORK HAS BEEN UNDERTAKEN ON SAID MATERIAL. No agent or representative is authorized to alter the above conditions, except by writing duly signed by an officer of treater.

DAS
38
9-89
KEAN SHEPHERD
QUALITY CONTROL
ATLANTIC HEAT TREATING 2001 LTD

RBEM
6326300
1225

5112367

Shipping Ticket

Sold To: 1448
DART AEROSPACE LTD.
1270 ABERDEEN ST

HAWKESBURY ON K6A 1K7

Ship To: 156220
DART AEROSPACE LTD.
1270 ABERDEEN ST

HAWKESBURY ON K6A 1K7

Page 1 of 1

Purchase Order Number	Packing List No	Customer Job No	Route	Carrier
041228 ✓				

Quantity	Part No. / Part Name / Part Description	Pounds
✓ 14	PCS MATERIAL 4140 ANNEAL THEN HARDEN TO 53-56 RC SANDBLAST, C of C, JOB #176357, PART #C10-5 ✓	

Container Type	# Of Containers	Cust Cont Id	Container Type	# Of Containers	Cust Cont Id
BOX	1				

NOTICE: OUR LIABILITY IS LIMITED TO OUR INVOICE CHARGES ONLY

Shipped Complete

Quantity Shipped: 14

Pounds Shipped: 160.00

DAS
38
9-89

AB

53 Rc

10-9-18

Order No.: 159082

Shipped Complete

Quantity Shipped: 14.00

Received By:

Date:

Pounds Shipped: 160.00

Sold To: DART AEROSPACE LTD.

Shipped ON: 10/04/2018